usually head downwards, but in whatever position they may be the head and fore part of the body is raised. They scramble about very quickly, but like all lizards soon exhaust themselves and can then be easily taken. They permit persons to approach near to them when first discovered, but soon become alarmed. When on trees, like squirrels and woodpeckers, they have a habit of placing themselves on the opposite side to the one in view. They live on spiders, beetles, and caterpillars, and in captivity eat cockroaches with avidity, managing sometimes to swallow very large ones. In confinement they have laid cylindrical-shaped eggs an inch long, covered with tough, white, slightly ribbed, parchment-like skin.

7. Additional Notes upon *Hapalemur griseus*. By Frank E. Beddard, M.A., Prosector to the Society.

[Received June 15, 1891.]

In the 'Proceedings' of this Society for 1884 (p. 391 *et seqq.*) I published a few notes upon the external characters and visceral anatomy of *Hapalemur griseus*. Since that date I have had the opportunity of dissecting two other examples of this Lemur, and am able to supplement my former paper with some account of the brain and the muscular system. Unfortunately both these individuals were, like the one which I first dissected, males. It is very desirable that the condition of the patch of modified integument upon the arms, so characteristic a feature of this animal, should be figured in the female. It was first figured for the male *Hapalemur griseus* by myself, and subsequently by Mr. Bland Sutton[1]; but although Mr. Sutton's figure supplemented my own in directing attention to a tuft of long hairs, overlooked by myself, in the neighbourhood of the patch of spines, we both of us omitted to observe one detail which will be noticed in the accompanying drawing (fig. 1, p. 450). In the specimen before me the patch of spines is very well and equally developed upon both arms; it extends down as far as the naked skin of the palm of the hand, being thus more extensive than in the former examples figured by myself and by Mr. Sutton; towards the middle of the patch the spines were distinctly longer than elsewhere; to the outside of the patch, on both arms there was a smallish oval tract of thick skin like one of the pads on the palm of the hand, with lines running transversely to its long axis. Both I myself and Mr. Sutton had failed to notice this callous pad. On re-examining the skin of the individual which I first dissected, I have found indications of this pad, which is, however, not at all clear in the dried skin. I fancy that it must also have been inconspicuous before the skin was removed; it is so plain in the specimen before me, that I cannot understand having

[1] "On the Arm-gland of Lemurs," P. Z. S. 1887, p. 391. See also Journ. of Comp. Med. and Surgery, vol. viii. p. 22.

overlooked it, if it was really conspicuous. The gland which I referred to in my former paper lies beneath the pad.

Some months ago I dissected a smaller specimen of *Hapalemur griseus* than the one described in the present paper, and found the "arm-gland" and the patch of spines covering it to be very small and inconspicuous; the genital organs of that individual were also very small, which is some evidence for regarding the arm-gland and its appurtenances as being a secondary sexual character, and not of any direct use to the animal (*e. g.* as a "climbing-organ").

Fig. 1.

Lower surface of hand of *Hapalemur griseus*.

A, callous pad overlying arm-gland; B, patch of spines; C, tuft of long hair.

I called attention in my former paper to the unusual position of the nipples, which were subsequently figured by Mr. Sutton. They have the same position in the specimen before me, and the mammary glands themselves, as previously, are comparatively largely developed. It is quite credible that they might be actually functional.

A point of some little interest in the structure of *Hapalemur* is the presence of "Peyer's patches" in the large intestine. I had

noted this fact without being aware of Dr. Dobson's observations, to which, however, I was able to refer in a footnote introduced after my article had been set in type. In the present specimen the diseased condition of the alimentary tract rendered these patches unusually clear, so much so that I have thought it worth while to have the accompanying drawing prepared; this drawing (fig. 2, p. 452) will give some idea of their number and size upon one aspect of the colon. The strongly marked character of the Peyer's patches was due, Dr. Campbell informs me, not only to the pigmentation of the patches themselves, but to the anæmic condition of the alimentary tract.

Cæcum.

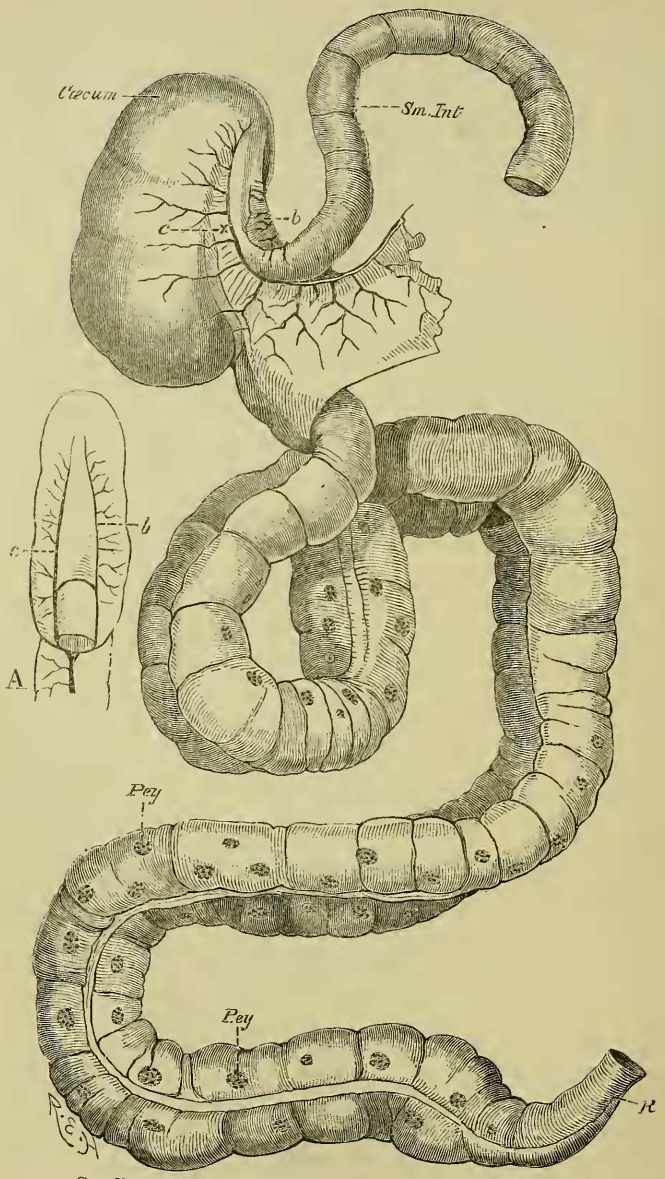
In my former paper I have described the cæcum, but not the folds of mesentery by which it is held in position. These folds show an interesting series of variations among Lemurs, which appear to have some classificatory value. The cæcum and adjacent parts of the alimentary tract of *Hapalemur griseus* are shown in the accompanying drawing (fig. 2, p. 452), which is of the natural size. Two folds (*c* and *b*) pass along the surface of the cæcum nearest to the small intestine; these folds run for a considerable distance towards the blind extremity of the gut, but do not reach it by a large interval. Both these folds bear blood-vessels, which ramify on to the cæcum itself. The two folds are symmetrically disposed with regard to each other and the small intestine; they are quite free from the latter, passing by it on each side and uniting some way behind it with the mesentery which supports the small intestine. I found this arrangement in both the examples of *Hapalemur griseus* which I dissected, and therefore regard it as the normal condition. In *Loris gracilis* the disposition of these folds is quite different. I do not refer here to the shape of the cæcum itself, or make any comparisons between different genera as regards their cæca. I merely call attention to the folds of mesentery. My attention was directed to the possible importance of this anatomical feature after making myself acquainted with Prof. Flower's description[1] of the corresponding folds in the New and Old World Monkeys.

In *Loris gracilis* the two folds already described as existing in *Hapalemur* are also found; they are, however, more extensive, reaching nearly to the extremity of the cæcum; as in *Hapalemur* they bear the blood-vessels destined for the nutrition of the cæcum. But in addition to these two folds, which evidently correspond to those of *Hapalemur*, there is a thin median fold, lying, that is to say, between the other two; this fold is much less extensive, only reaching for a short distance along the cæcum; it has no blood-vessels, and arises from the small intestine; it forms a kind of web between the small intestine and the cæcum.

Nycticebus javanicus shows some differences in detail, as regards these points, from *Loris gracilis*, but resembles that species more closely than it does *Hapalemur griseus*. Three folds are present,

[1] Medical Times and Gazette, 1872.

Fig. 2.



Small intestine, cæcum, and colon of *Hapalemur griseus*.

Sm.Int., small intestine; *b*, *c*, bands of mesentery supporting cæcum; *Pey.*, Peyer's patches; *R.*, rectum.

A. Plan of bands supporting cæcum; the gut is viewed from above, and the two bands *b* and *c* are seen to rise behind the small intestine and to pass round it on to the cæcum.

two lateral and one median; but they all three bear blood-vessels, which are, however, more extensively developed upon one of the lateral folds than upon either of the two others; this fold extends to the very end of the cæcum: the opposite lateral fold only extends for about one-quarter or less of the entire length of the cæcum; instead of being attached, as it is in *Loris*, to the gut independently of the middle fold, it is attached in common with the latter: the median fold is small but not, as it is in *Loris*, anangious; it bears a small blood-vessel.

Nycticebus tardigradus.—The cæcum of a spirit-specimen was cut out carefully and distended with air; when dry the relations of the folds to the cæcum and to the small intestine were quite clear, and the presence or absence of blood-vessels could be made out owing to the fact of their being naturally injected.

There is one principal fold which arises behind the small intestine from the mesentery connecting this and the colon; this fold passes to within a quarter of an inch of the extremity of the cæcum, gradually getting shallower as it approaches the apex of that organ; it is deepest where it passes to one side of the small intestine; it bears a conspicuous blood-vessel which gives off branches to the cæcum. Corresponding to this on the other side of the small intestine is a very slightly marked fold, also bearing a blood-vessel, which only just passes beyond the small intestine; it arises from the ileo-colic mesentery, exactly opposite the origin of the well-developed cæcal mesentery of the opposite side. From the small intestine itself a small anangious fold arises, about half an inch in vertical diameter, which joins the strongly developed vascular fold.

Galago alleni.—The cæcum of this species was extracted from a spirit-specimen and distended with air. The most prominent fold is one from the small intestine, which is attached to the cæcum for nearly its whole length. On one side a very small fold arises from the cæcum itslf, and is attached to the median fold; it bears the blood-vessels supplying the cæcum, which run along the single mesentery formed by the junction of this with the median anangious fold.

In the Potto (*Perodicticus potto*) I have examined the fresh cæcum as well as one extracted from a spirit-specimen and distended with air. The folds are closely similar to those of *Nycticebus tardigradus*, but present certain differences of detail (see fig. 3, p. 455).

There is one strongly marked fold which runs nearly to the end of the cæcum, but not quite so nearly to the end as in *Nycticebus tardigradus*. The cæcum of the Potto has a kind of vermiform appendix, and at the junction of this with the wider part of the cæcum the fold in question is deepest, becoming shallower both in front of and behind this region: there is a second lateral fold on the opposite side of the cæcum, which is rather more extensive than it is in *Nycticebus tardigradus*; it reaches on to the cæcum for a space of about half an inch beyond the ileo-cæcal junction. From the small intestine is given off an anangious fold, which is attached independently to the cæcum, though from the point where it ceases

to be visible as a fold a line may be traced running to the larger of the two lateral folds, to which the attachment of the anangious fold is more closely approximated.

Cheirogaleus (*Microcebus*) *smithi*.—This Lemur agrees closely with *Galago*. The median anangious fold arising from the small intestine is very large; there is only one lateral fold bearing a blood-vessel, which fuses with the median fold; this lateral fold arises behind the small intestine from the ileo-colic mesentery; the same is probably true of *Galago*, though my specimen did not show it.

Of the genus *Lemur* I have examined the following species, viz. *L. brunneus*, *L. rufifrons*, *L. albifrons*, *L. varius*, and *L. anjuanensis*.

In *Lemur brunneus* there are only two folds attached to the cæcum; one of these extends to the very extremity of that appendage, arising not from the small intestine, but from the mesentery behind the small intestine which attaches it to the colon; this fold bears a blood-vessel; the second fold is very short and apparently completely anangious; it arises from the small intestine itself and is attached to the first-mentioned fold, so that there is but one line of attachment to the cæcum; the attachment of the second (anangious) fold to the first is for a distance of not more than one fifth of its length.

Lemur rufifrons appears to be exactly like the last species in the number and disposition of the mesenteric folds attached to the cæcum.

Lemur albifrons differs from the last two species only in the reduction of the anangious fold arising from the small intestine.

In *Lemur varius* this fold is still further reduced and has become quite rudimentary.

Lemur anjuanensis, as regards the folds (see fig. 3, p. 455), is precisely like *Lemur brunneus*.

As regards the disposition of the folds of mesentery connected with the cæcum, the genera mentioned in the present paper appear to fall into three groups:—

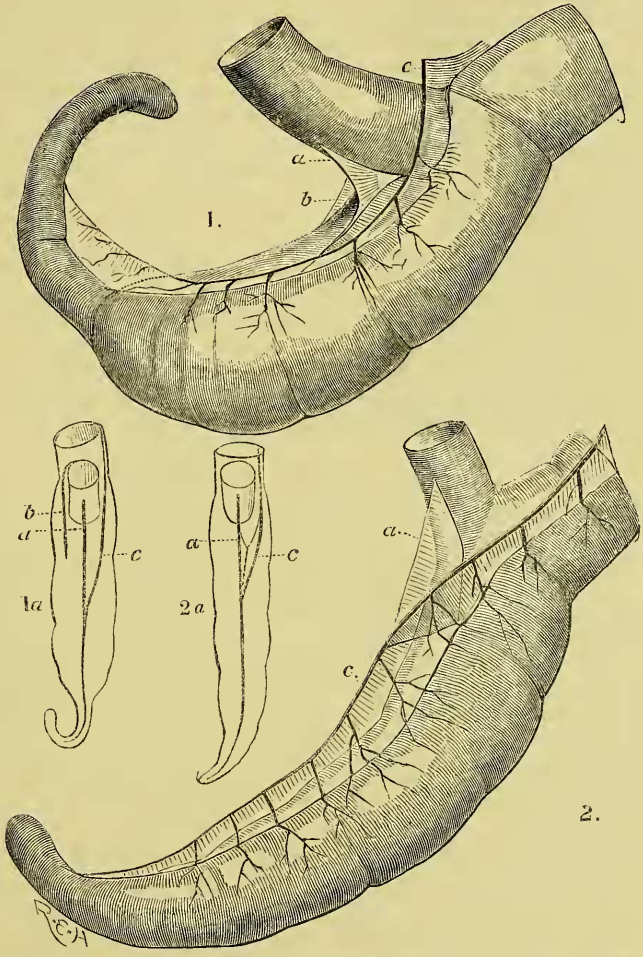
(1) *Hapalemur* stands apart from the rest in possessing only the two lateral folds, both of which bear blood-vessels.

(2) In *Lemur*, *Galago*, and *Microcebus* (= *Cheirogaleus*) only one of the two lateral, vessel-bearing, folds is present; in addition to this there is an anangious fold arising from the ileum and inserted on to the lateral fold.

(3) In *Loris*, *Nycticebus*, and *Perodicticus* all three folds are present, but one of the lateral folds is generally much more developed than the other. The median frenum may (*Nycticebus*) or may not (*Perodicticus*) be attached to the larger of the two lateral folds.

It might be supposed that the *raison d'être* of the persistence of the median frenum was to assist in preventing the displacement of the cæcum; the short sac-like cæcum of *Hapalemur*, which is without the median frenum, might, on account of its shape and relative size, be less easily displaced or bent than the elongated cæcum of *Lemur* or *Perodicticus*.

Fig. 3.



1. Cæcum of *Perodicticus potto*: *b* and *c* bands corresponding to those similarly lettered in fig. 2; *a*, median anangious fold.

1 *a*. Plan of bands constructed as in fig. 2 A.

2. Cæcum of *Lemur anjuanensis*. Letters as above.

2 *a*. Plan of cæcum and bands of the same.

We must undoubtedly regard this bloodless fold of membrane—the frenum—as Mr. Treves[1] has pointed out, as being the true mesentery of the cæcum, and the development of the lateral folds as an entirely secondary process.

Looking at the matter from this point of view *Hapalemur* is evidently, when compared with *Lemur*, a specialized type. It is not, however, so easy to decide whether the Lorisinæ or the Lemurinæ include the older types. Perhaps the presence of *two* lateral folds in the Lorisinæ is evidence of a more specialized condition than is shown by either the Lemurinæ or Galagininæ, where only *one* is developed. On the other hand, the independence of the frenum and the lateral fold in *Loris* and the Potto, as contrasted with their fusion in *Lemur* (also, however, in *Nycticebus*), might be used as an argument on the other side.

There can, however, be no doubt, and that is rather the point upon which I wish to dwell in the present communication, that *Hapalemur* is so far a specialized type of *Lemur* in that it has lost the true mesentery of the cæcum. Whether this is, or is not, correlated with the altered form of the cæcum itself is not a matter of importance, since in any case the organ itself shows a departure from the ordinary Lemurine cæcum in its shape.

Brain.

The brain was carefully extracted, and is in an excellent state of preservation. In the hardened brain I have made the following measurements, which are placed side by side with corresponding measurements of well-preserved brains of *Lemur anjuanensis* and *Galago crassicaudatus*.

	Hapalemur.	*Lemur.*	*Galago.*
	mm.	mm.	mm.
Total length	36	42	35
Greatest breadth	26·5	33	27
Length of hemisphere	33	37·5	32
Greatest depth	19	23·5	17

From these measurements it follows that the brain of *Lemur* is broader as well as deeper than that of *Hapalemur*, that the brain of *Galago* is broader but shallower than that of *Hapalemur*, and that the brain of *Lemur* is just perceptibly broader but considerably deeper than that of *Galago*.

The narrowness of the brain of *Hapalemur*, as contrasted with the other types used for comparison, is indeed apparent to the eye without making accurate measurements to prove it.

As will be also seen from the above table, the difference in length between the brains of *Hapalemur* and *Galago* is very small; the

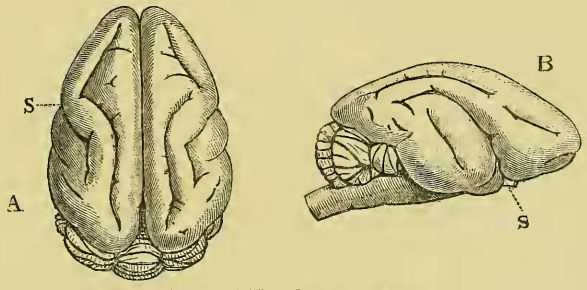
[1] "The Anatomy of the Intestinal Canal and Peritoneum in Man." Hunterian Lecture, 1885. London, 1885.

two Lemurs themselves are of about the same size; but it is interesting to note that the brain of *Hapalemur* is distinctly larger in total size. I cannot compare it with the brain of *Lemur anjuanensis*, as I did not preserve any record of the measurements of that individual.

As there is no description, so far at least as I am aware, of the brain of *Hapalemur*, I have considered it worth to give the following description illustrated by the drawings which I exhibit (fig. 4, A and B).

The brain of *Hapalemur* is of an oval form: it is not sharply compressed anteriorly, as is the brain of *Lemur*; neither do the hemispheres diverge from each other so markedly behind as in that

Fig. 4.



Brain of *Hapalemur griseus*.

A, from above; B, lateral view; S (in both figures), Sylvian fissure.

genus and *Galago*. The convolutions, however, show only slight differences from those of *Lemur*. In Professor Flower's figure of the brain of *Lemur nigrifrons*[1] the angular sulcus is quite distinct from the infero-frontal, and I find that this is also the case with *Lemur anjuanensis*. In *Hapalemur griseus* these two furrows are present, as shown in the accompanying drawing, and have precisely the same shape as in *Lemur*; but there is hardly a break between the anterior end of the angular sulcus and the posterior end of the infero-frontal; they form practically a continuous sulcus. The Sylvian fissure in *Hapalemur* extends rather further back than in *Lemur*, running for a short distance parallel with the angular fissure: with the exception of these small differences, the brains of *Hapalemur* and *Lemur* appear to me to be very similar.

Prof. Milne-Edwards has devoted two plates of the magnificent 'Histoire de Madagascar'[2] to the illustration of the brains of the Indrisinæ; those of the genera *Propithecus*, *Indris*, and *Avahi* are figured in many aspects. It is quite clear from these admirable figures that while there are not wide differences between the Indrisinæ and other Lemurs, the brain-configuration of the former shows no

[1] "On the Brain of the Javan Loris (*Stenops javanicus*, Illig.)," Tr. Z. S. vol. v. p. 103.

[2] 'Histoire Naturelle etc. de Madagascar,' Mammifères, Atlas, pls. 86, 87.

special resemblances to that of *Hapalemur*. Nor can I find a close resemblance between the brain of *Hapalemur* and that of any of the *Loris* group (i. e. *Loris*, *Nycticebus*, and *Perodicticus*[1]). The brain-structure of *Hapalemur* undoubtedly justifies its position in the subfamily Lemurinæ.

Myology.

As regards their myology, the Lemurs are one of the best-known groups; there are, indeed, comparatively few types which have not been dissected; as *Hapalemur* is one of these types, the present notes may be of use, if only as a further proof of the great uniformity in the muscular structure of these animals.

The principal memoirs, which have served me as a basis of comparison between *Hapalemur* and other forms, are those of Murie and Mivart and of Milne-Edwards.

Messrs. Murie and Mivart sum up, in their elaborate treatise on the myology of the Lemurs[2], all the observations made previously to that publication—a proceeding which has not only enabled them to take a general survey of the importance of the muscular anatomy for classificatory purposes, but is also very saving of trouble to those who come after. Prof. Milne-Edwards[3] deals with the muscular structure of the Indrisinæ. As it is clearly to the types described by these writers that *Hapalemur* is related, I have not specially compared its muscles with those of the aberrant *Chiromys*, first described by Sir Richard Owen[4], and more recently by Dr. J. F. Oudemans[5], or with *Tarsius*.

In the following account of the muscles of *Hapalemur griseus* I only describe those of the limbs, and for the most part only mention those which show any variation in the different genera, and those which show modifications characteristic of the whole group Lemuroidea, such as, for example, the origin of the *Rectus femoris* by a double tendon.

Fore Limb.

1. *Trapezius.*—The origin of this muscle commences at about the middle of the neck, and extends backwards so as to just overlap the latissimus dorsi; it is inserted on to the spine of the scapula, on to the posterior third of the hind margin, and on to nearly the whole of the front margin, being continuous in front with the levator claviculæ; the two muscles are here so completely continuous that it is impossible to say that one overlaps the other.

2. *Rhomboideus.*—This muscle is single.

[1] The brain of *Arctocebus calabarensis* has not, so far as I am aware, been described.

[2] "The Anatomy of the Lemuroidea," Tr. Z. S. vol. vii. p. 1.

[3] 'Histoire Naturelle etc. de Madagascar,' Mammifères.

[4] "On the Aye-Aye (*Chiromys*, Cuvier; *Chiromys madagascariensis*, Desm.; *Sciurus madagascariensis*, Gmel., Sonnerat; *Lemur psilodactylus*, Schreber, Shaw)," Tr. Z. S. vol. v. p. 33.

[5] "Beiträge zur Kenntniss der *Chiromys madagascariensis*," Verh. Ak. Amst. xxvii.

3. *Latissimus dorsi* from the posterior dorsal vertebræ, slightly overlapped in front by the trapezius, and from the lumbar fascia: it gives off a very decided slip to the pectoralis, which is attached to that muscle by a flat tendon.

4. *Dorso-epitrochlear* arises from the latissimus dorsi just before it becomes tendinous; it is inserted by a broad thin tendon on to the ulna for a space of $\frac{1}{2}$–$\frac{3}{4}$ inch from the olecranon.

5. *Serratus magnus* arises from the first 8 ribs and from the cervical vertebræ; it is attached to the posterior two-thirds of the vertebral border of the scapula.

6. *Pectoralis major* consists of two separable parts only: (1) a clavicular portion from the sterno-clavicular articulation, and (2) a pectoral portion from the sternum and from a few ribs behind the sternum.

I could find no trace of the second pectoral muscle, *Pectoralis minor*.

7. The *Subclavius* passes from the first rib to the clavicle.

8. *Biceps*.—This muscle is two-headed: the long head arises by a long flat tendon passing underneath an annular ligament; the second head arises in common with the *coraco-brachialis longus* and is apparently fused with that muscle for some way.

9. *Coraco-brachialis* is also a double muscle; the part lying behind the insertion of the teres major (the other part lies in front) is very short and only reaches about one quarter way down the insertion of the said muscle.

10. *Triceps* has the usual three heads: the long head arises from the lower border of the scapula and also from a fascia covering the infra-spinatus; the second head arises from the head of the humerus; the third from nearly the whole of the shaft of the humerus; the anterior part of this forms an almost distinct head, which appears to correspond to that referred to by Messrs. Murie and Mivart as the "fourth head."

11. *Brachialis anticus* arises high up on the radial side of the humerus and twists round to the other side, receiving fibres the whole way.

12. The *Teres major* is a large muscle, inserted as usual and separately by a stout flat tendon.

13. *Teres minor* is present, as in other Lemurs.

14. *Flexor sublimis digitorum*.—This is a small muscle arising from the internal condyle of the humerus; about halfway down the forearm a thin tendon is given off which passes to the conjoined deep flexor tendons; later the tendon of this muscle splits into four, which supply digits II.–V. The two middle tendons are the thickest and are of equal size; the two outer tendons are considerably thinner, but also equisized.

15. The *Palmaris longus* arises from the internal condyle; the tendon is $\frac{2}{3}$ of the length of the entire muscle.

16. *Flexor carpi ulnaris* is not in any way remarkable.

17, 18. The *Flexor profundus digitorum* and the *Flexor longus pollicis* blend together before the wrist while yet muscular, though

covered on the under surface by tendon; the muscles are not at all distinct: the *flexor profundus* arises by one head from the ulna; the *flexor pollicis* by two heads, one from the internal condyle of the humerus, the other from the radius.

19. *Extensor communis digitorum.*—The muscle divides into three tendons high up in the arm: the outermost of these divides into two, one branch supplying digit V., the other fusing with the middle of the three tendons: the tendon so formed divides into three; two of the branches supply digits IV. and III.; the remaining branch fuses with the innermost of the three tendons and supplies digit II.

20. The *Extensor secundi internodii pollicis* is a long and slender muscle; it arises high up on the ulna from its radial surface; the tendon of the muscle commences about halfway down the forearm; it is inserted on the terminal phalanx of thumb.

21. The *Extensor ossis metacarpi pollicis* is a broad, flat, bipinnate muscle arising from anterior two-thirds of radius and from the interosseous membrane; its tendon crosses over the area a little before the wrist and is attached to the radial side of the head of the first metacarpal.

22. *Extensor carpi radialis longior.*—This muscle arises from the ridge on the humerus leading to the extensor condyle; its tendon commences before halfway down the forearm and is inserted on to the radial side of the head of the second metacarpal.

23. *Extensor carpi radialis brevior.*—This muscle arises from the extensor condyle of the humerus and from the septum between itself and the extensor communis digitorum; its tendon is inserted on to the outer side of the middle (3rd) metacarpal.

24. *Extensor minimi digiti* is a tolerably long and slender muscle, arising from the external condyle of the humerus; it divides at the wrist into two tendons, which are inserted on to ulnar side of IVth and Vth digits; just before its bifurcation it receives a slender tendon from the extensor indicis.

25. *Extensor carpi ulnaris* arises from the extensor condyle of the humerus and from the ulna; it is a single insertion.

26. The *Extensor indicis* arises from the radial surface of the ulna and from the interosseous ligament; it divides into two tendons: one of these joins the extensor minimi digiti as already described and besides ends in a fascia; the other tendon goes to index.

Hind Limb.

1. The *Glutæus maximus* is, as in other Lemurs, composed of two separate parts; the insertion of the posterior part of the muscle extends right along the femur to its very end.

2. The *Rectus femoris* arises by a strong round tendon, which is bifurcate at the origin; the muscle is covered by the vastus externus.

3. The *Vastus externus* is large and fleshy; it presents no peculiarities of origin or insertion.

4. The *Vastus internus* is barely half the size of the vastus externus.

5. The *Crurœus* arises from nearly the whole length of the femur.

All these four muscles are attached to the fascia; they are merely mentioned in order to show that there is nothing abnormal about them.

6. *Biceps femoris.*—This muscle arises by a long strong tendon from the ischial tuberosity; it is inserted by a long, flat, and excessively thin tendon on to fascia covering legs and on to tibia; it is connected at its origin with

7. *Semitendinosus.*—The *Semitendinosus* is a thin muscle fleshy at its origin; it is inserted by a long flat tendon, more than one inch in length, on to the cnemial crest of tibia in front of and below insertion of sartorius.

8. The *Semimembranosus* is a much larger muscle; it arises from the ischium, behind the origin of the semitendinosus, but is slightly overlapped by that muscle in the front portion of its origin; its insertion is by a strong, flat, but short tendon on to the head of tibia.

9. The *Gracilis* arises from the symphysis pubis; it is fused near its insertion with sartorius, and both are inserted by a common tendon along with the semitendinosus.

10, 11. *Gastrocnemius* and *Soleus* appear to form one muscle with three heads; the soleus arises from the fibula by a flat ribbon-shaped tendon.

The *Plantaris* was totally absent.

12. The *Tibialis posticus* ends in a long tendon inserted into tarsus at base of great toe; its origin is hidden below flexors.

13, 14. The *Flexor longus hallucis* and the *Flexor digitorum* both give off a tendon to the hallux; they blend before the division of the latter into the tendons of digits.

15. The *Tibialis anticus* arises from the tibia only, and not from the femur also.

16. The *Extensor proprius hallucis* is long and slender; it supplies last phalanx of hallux.

There are, as in other Lemurs, four Peroneals.

The account of the myology given above so far as it goes lends support to Messrs. Mivart and Murie's conclusion that "there is nothing of a very singular nature in the muscles distinguishing any one genus from its fellows."

There is no peculiarity that I have been able to discover which is distinctive of the genus *Hapalemur*.

Where the genera of Lemurs differ among themselves, *Hapalemur* nearly always comes nearest to *Lemur*. This is the case with the majority of the muscles dissected by me, but it is not invariably so; a comparison of my descriptions will show a few points of agreement with genera other than *Lemur*: for example, the absence of a *Pectoralis secundus* allies *Hapalemur* not to the genus *Galago*, but to *Galago alleni* only; in the absence of a plantaris muscle *Hapalemur* agrees with *Loris*, *Nycticebus*, *Perodicticus*, and apparently also *Galago peli*.